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ABSTRACT

A study examined trade and industrial (T&I) vocational teacher education baccalaureate degree requirements at colleges and universities across the country. Questionnaires were sent to all 26 institutions listed in the 1992 "Industrial Teacher Education Directory" as offering undergraduate degrees in vocational education, vocational teacher education, or vocational industrial education. Seventeen institutions responded (a 65.4% response rate). Not a single common course was required by all 17 institutions. Only 5 of the 20 courses mentioned on the questionnaire were required by more than 50% of the responding institutions: 14 (82.4%) required a teaching methods course, 13 (76.5%) required a curriculum development course, 11 (64.7%) required a special populations course, 9 (52.9%) required a measurement and evaluation course, and 9 (52.9%) required a laboratory planning and management. A comparison of the identified course offerings and U.S. Department of Education-recommended T&I teacher education competencies revealed that the programs surveyed are failing to address the area of program planning, development, and evaluation. It was recommended that vocational T&I teachers continue to examine closely the full range of courses taken by aspiring T&I teachers to ensure that changing secondary school curriculum needs are being met. (A list of the 17 responding institutions is appended.) (MN)

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Vocational Teacher Education

Baccalaureate Degree Requirements:

A National Survey

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Dallas, Texas

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The past decade has witnessed rapid and significant changes in both vocational education and teacher preparation. Many vocational teacher education programs have not kept pace with these changes. It is becoming increasingly clear that for an individual to be an effective vocational educator, he/she needs both technical expertise and professional teacher preparation. One of the recent recommendations of the National Assessment of Vocational Education called for all vocational teachers to have a bachelor's degree which included professional preparation in instructional methodology.

The professional preparation of vocational teachers, as indicated by the earning of a bachelor's degree, is significantly lower than the professional preparation of teachers from the academic disciplines (Finch et. el., 1992). Bosel and McFarland (1994) noted that: "the tendency for vocational teachers to have less formal education and more occupational experience than academic teachers is most pronounced in trade and industrial education (T&I). Forty-five percent of secondary T&I teachers and 33 percent of those in post secondary institutions have less than a bachelor's degree" (p. 19).

Currently only three states require a baccalaureate degree for secondary T&I certification, Hawaii, Nebraska, and Wisconsin. Bosel and McFarland (1994) further prescribed that "a bachelor's degree with pre-service training in education

should be a standard requirement for certification of all new vocational teachers" (p. 20). The authors also noted that T&I instructors should have more college course work in the liberal arts with that course work being more rigorous. The American Vocational Association (AVA) (1994) noted that "T&I teaches would be better off with more formal education and less occupational experience." (p. 4)

Lynch (1991) found that colleges and universities have recently increased their teacher education requirements. He indicated that entry requirements for teacher education programs have been stiffened and also that colleges of education have increased the number of general education and liberal arts courses being required. The AVA (1994) concurs with this policy noting that vocational teachers need more rigorous course work in liberal arts with an increased emphasis on mathematics and science.

It seems clear, beginning vocational education teachers, in general and T&I education teachers specifically, need to pursue a more stringent professional preparation program. That program of study needs to include a mix of general academic courses, professional educational courses, plus an enhancement of the individuals technical expertise.

Lynch (1991) indicated that at some institutions curriculum reform is taking place in vocational teacher

education. Some colleges and universities reported moving toward both a core vocational education curriculum and a core professional education curriculum. This reform narrows electives which may be transferred in from other institutions and work experience and increases the required courses in pedagogy, instructional methodology, evaluation, plus a general cadre of academic courses. Also noted by Lynch was the refocusing of upper division courses to resemble other baccalaureate programs of teacher education. In other words, the educational reform was attempting to align T&I vocational teacher preparation with that of other professional education programs.

Core T&I vocational teacher education competencies were identified a decade ago by the NCRVE (U.S. Department of Education, 1985). Those eleven identified competencies can be seen in Table 1. These competencies are in many cases the basis for the curriculum of today's T&I vocational teacher education programs.

Lynch's (1991) research noted that vocational teacher education was comprised of six categories; pre-student teaching experience, computer applications, vocational youth organizations, business-based experience, special needs students, and cooperative education. Lynch also noted that "considerably fewer programs require methods or experience

on integrating basic skills with vocational education" in their vocational teacher education programs (p. 135).

NCRVE data indicated that T&I vocational teacher education programs can be analyzed in five distinct blocks of course work. Those include occupational experience, vocational education courses, educational foundations classes, student teaching experiences, and general education/elective courses. A listing of the number of required hours in each of these areas can be seen in Table 2.

According to Lynch (1991) the majority of T&I vocational teacher education major's course work (36.0%) is composed of general education or elective courses, followed by credit for occupational experience (17.0%). The AVA (1994) indicated that more related work experience is not positively related to better teaching. Additional courses are required in vocational education (12 hours), educational foundations (10.4 hours), and 9.8 hours of student teaching.

Where as Olson (1991) in her study of technical education baccalaureate degree requirements noted that general education consisted of 41.5% of the total hours required and student teaching comprised a like 10.0 hours. Olson fund that technical education majors are required to take a significantly greater number of hours in professional education course work (30.2%). This disparity further indicates the need for T&I

baccalaureate degree requirements to include a greater number of professional education courses.

The following synthesis of information on the preparation of T&I vocational educators is as current and accurate as possible. The National Center for Research in Vocational Education noted that "research and data on vocational teacher education seems to be practically nonexistent" (Lynch, 1991, p. 2). The Industrial Teacher Education Directory (Dennis, 1992) provided current teacher education institution data for this research. This directory listed 26 institutions offering an undergraduate degree in vocational education, vocational teacher education, or vocational industrial education. These institutions were surveyed to ascertain their baccalaureate degree requirements. This was accomplished by having the institution return its program of study. Of the 26 letters of request mailed, 17 were returned or a response rate of 65.4%. A list of the institutions which responded can be seen in Appendix A.

The responses were examined to determine the core of required professional and vocational education courses. (see Table 3) Of the 17 programs of study reviewed, not a single common course was required by all institutions. A teaching methods course was required by 14 schools (82.4%), followed by a curriculum development course required in 13 programs

(76.5%). A special populations course was noted in 11 programs (64.7%) with measurement and evaluation, and laboratory planning and management required by nine colleges (52.9%). None of the other 15 mentioned courses were required by over 50% of the schools. This lack of consistency in baccalaureate degree requirements adds another concern to the preparation of T&I teachers, what should the program of study consist of? The standards prepared by the U.S. Department of Education (1985) are not currently being addressed by the vocational teacher preparation institutions surveyed.

In comparing the surveyed T&I teacher education courses to the U.S. Department of Education (1985) T&I teacher education competencies one distinct area was not addressed by the teacher preparation programs. The planning, development, and evaluation of programs was missing. This indicates that teacher preparation institutions are not addressing this area of study. Other competencies identified by the U.S Department of Education, such as x, were being included in the schools' course of study.

Vocational T&I teacher educators should continue to examine closely the full range of courses taken by aspiring T&I education teachers to insure that changing secondary school curriculum needs are being met. And if program related competencies are a core component of teacher preparation,

they should be included in the baccalaureate programs, and if not, removed from government competency lists.

This study has attempted to shed some light on the preparation of T&I education teachers. Its findings are not new, however the lack of consistency, lack of rigor, and lack of professional education core in T&I vocational teacher preparation needs to be addressed. The profession, teacher educators, and state certification agencies must converge and establish baccalaureate degree standards for today's and tomorrow's trade and industrial education teachers.

Table 1

T&I Teacher Education Competencies

1. Program Planning
2. Program Development
3. Development of a Course of Study
4. Instructional Execution
5. Laboratory Management
6. Vocational Student Organizations
7. Student Evaluation
8. Program Evaluation
9. Knowledge of Related Organizations
10. Principles of Vocational Education
11. Cooperative Education

(U.S. Department of Education, 1985, pp. 44-50)

Table 2

Vocational Teacher Education Degree Requirements

Category	Mean Hours	Percentage
Student Teaching	9.8	7.6
Educational Foundations	13.3	10.4
Vocational Education	15.4	12.0
Occupational Experience	21.8	17.0
General Education	46.1	36.0
Total Credits	127.7	100.0

(Lynch, 1991, p. 129)

Table 3

Required Vocational Teacher Education Courses

Course Title	n	Percentage
Teaching Methods	14	82.4
Curriculum Development	13	76.5
Special Populations	11	64.7
Measurement & Evaluation	9	52.9
Lab Planning & Management	9	52.9
Occupational Analysis	8	47.1
Introduction to Vocational Education	8	47.1
Safety	8	47.1
Cooperative Education	7	41.2
Educational Psychology	7	41.2
Philosophy of Vocational Education	6	35.3
Reading in the Content Area	5	29.4
Foundations of Vocational Education	5	29.4
Vocational Student Organizations	5	29.4
Adult Education Methods	4	23.5
Computer Applications	4	23.5
School and Society	3	17.6
Multi-Cultural Education	3	17.6
Audio-Visual Operations	2	11.8
Vocational Guidance	2	11.8

N=17

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Appendix A

Participating Institutions

Bemidji State University, Minnesota

Chardon State College, Nebraska

City College of City University of New York

Eastern Kentucky University

Indiana State University

Indiana University of Pennsylvania

University of Louisville

Mississippi State University

University of Nebraska-Lincoln

University of Nebraska at Kearney

Ohio State University

Pennsylvania State University

Pittsburg State University, Kansas

Trenton State College, New Jersey

University of Southern Maine

West Virginia Institute of Technology

University of Wisconsin-Stout